THE BRITISH JOURNAL OF EXPERIMENTAL PATHOLOGY

EDITOR
R. E. M. Thompson

ASSISTANT EDITORS
D. St. J. Brew, J. V. T. Gostling, A. E. Kellie

ADVISORY EDITORS
J. R. Marrack, A. A. Miles, W. T. J. Morgan,
C. G. Pope

with the support of

E. C. Dodds, C. L. Evans, H. D. Kay,
J. W. McLeod

DIRECTOR
L. P. Garrod

VOLUME FIFTY-ONE

1970

LONDON
H. K. LEWIS & Co. Ltd.
136 GOWER ST., WC1E 6BS

on behalf of

'The British Journal of Experimental Pathology.'
Registered Office: Africa House, 64-78 Kingsway, London, WC2B 6BE

Copyright © 1970

Made and printed in Great Britain for
H. K. Lewis & Co. Ltd. by
Adlard & Son Ltd., Bartholomew Press, Dorking

CONTENTS

No. 1—FEBRUARY

PAGE

BASARAB, O. AND SMITH, H.—GROWTH PATTERNS OF INFLUENZA VIRUS IN CULTURES OF FERRET ORGANS 1

LEWIS, G. P., LOWE, T. J., WHITE, A. M. AND WORTHINGTON, JUDY.—BIOCHEMICAL CHANGES IN SKIN AND MUSCLE AFTER THERMAL INJURY 7

CUMMINGS, R. AND LYKKE, A. W. J.—INCREASED VASCULAR PERMEABILITY EVOKED BY CRUSH INJURY IN THE SKIN OF THE RAT 19

YOUNG, STRETTON AND NELSTROP, ANN E.—THE DETECTION BY IMMUNOFLUORESCENCE OF CASEIN IN RAT MAMMARY GLANDS 28

PEARN, J. H. AND HEGARTY, M. P.—INDOSPICINE—THE TERATOGENIC FACTOR FROM *Indigofera spicata* EXTRACT CAUSING CLEFT PALATE 34

ZLOTNIK, I. AND HARRIS, W. J.—THE CHANGES IN CELL ORGANELLES OF NEURONS IN THE BRAIN OF ADULT MICE AND HAMSTERS DURING SEMLIKI FOREST VIRUS AND LOUPING ILL ENCEPHALITIS 37

ELLIS, H. A. AND PEART, KATHLEEN M.—THE EFFECTS OF HEPARIN AND DEXTRAN SULPHATE ON CULTURED MOUSE LIMB BONES 43

JONES, R. J.—PASSIVE IMMUNISATION AGAINST GRAM-NEGATIVE BACILLI IN BURNS 53

DARCY, D. A.—GRANULOMA WEIGHT AND THE α1-ACUTE PHASE PROTEIN RESPONSE IN RATS INJECTED WITH TURPENTINE 59

SMITH, J. W. G. AND SCHALLIBAUM, EVELYN M.—THE THERAPEUTIC EFFECT OF HOMOLOGOUS AND HETEROLOGOUS ANTITOXINS IN EXPERIMENTAL DIPHTHERIA AND TETANUS 73

FORD, P. M., BELL, W. R., BLUESTONE, R., GUMPEL, J. M. AND WEBB, F. W. S.—THE EFFECT OF ARVIN ON EXPERIMENTAL IMMUNE ARTHRITIS IN RABBITS 81

GAUGAS, J. M., PAYNE, SHEILA AND WHARTON, F. P.—ASSOCIATION OF MACROPHAGE LIPIDS WITH *Mycobacterium lepraemurium* IN THE MOUSE THYMUS AND LYMPH NODE 87

ZUCKERMAN, A. J., TAYLOR, P. E., JACBOS, J. P. AND JONES, C. A.—CHROMOSOME STUDIES OF VIRUS-INFECTED SEMI-CONTINUOUS HUMAN EMBRYONIC LIVER CELLS 92

HARD, G. C.—SOME BIOCHEMICAL ASPECTS OF THE IMMUNE MACROPHAGE . . 97

No. 2—APRIL

PAGE

WEXLER, B. C.—ARTERIOSCLEROSIS OF THE PANCREAS AND CHANGES IN THE ISLETS OF LANGERHANS OF REPEATEDLY BRED RATS 107

STEWART, GWENDOLYN J.—EFFECT OF ENDOTOXIN ON THE ULTRASTRUCTURE OF LIVER AND BLOOD CELLS OF HAMSTERS 114

WALLNEROVA, ZLATA AND MIMS, C. A.—THORACIC DUCT CANNULATION AND HEMAL NODE FORMATION IN MICE INFECTED WITH COWPOX VIRUS 118

ŠLJIVIĆ, V. S.—RADIATION AND THE PHAGOCYTIC FUNCTION OF THE RETICULO-ENDOTHELIAL SYSTEM. I. ENHANCEMENT OF RES FUNCTION IN X-IRRADIATED MICE 130

ŠLJIVIĆ, V. S.—RADIATION AND THE PHAGOCYTIC FUNCTION OF THE RETICULO-ENDOTHELIAL SYSTEM. II. MECHANISM OF RES STIMULATION AFTER IRRADIATION 140

DEMPSTER, W. J.—HYPERTENSION AND ACUTE REJECTION PROCESSES IN ALLOTRANSPLANTED KIDNEYS 149

SWANSON BECK, J. AND EWEN, S. W. B.—THE PERSISTENCE OF "STEROID-SYNTHESIZING CELL" ANTIGEN AND 3β-HYDROXYSTEROID DEHYDROGENASE IN ORGAN CULTURES OF NORMAL HUMAN PLACENTAS 171

PARK, JUDITH K. AND DOW, R. C.—THE UPTAKE AND LOCALIZATION OF TETRACYCLINE IN HUMAN BLOOD CELLS 179

VAN DER WATT, J. J. AND PURCHASE, I. F. H.—THE ACUTE TOXICITY OF RETRORSINE, AFLATOXIN AND STERIGMATOCYSTIN IN VERVET MONKEYS . . 183

HALTIA, MATTI.—THE EFFECT OF FOLATE DEFICIENCY ON NEURONAL RNA CONTENT. A QUANTITATIVE CYTOCHEMICAL STUDY 191

CASEWELL, M. W. AND FENNELL, R. H.—SUPERNUMERARY PARATHYROID STRUCTURES IN THE NECK AND THYMUS OF PARATHYROIDECTOMIZED RATS AND THEIR RELATIONSHIP TO RECOVERY FROM HYPOCALCAEMIA . . . 197

BROWN, CAROLYN A.—ASSOCIATION OF LYSOMAL ENZYMES IN CULTURED FIBROBLASTS WITH THE INTRACELLULAR GROWTH OF *Mycobacterium lepraemurium* 203

RUBENSTEIN, D. AND TYRRELL, D. A. J.—GROWTH OF VIRUSES IN ORGAN CULTURES OF INTESTINE 210

HTA KYU, MA AND CAVANAGH, J. B.—SOME EFFECTS OF PORTO-CAVAL ANASTOMOSIS IN THE MALE RAT 217

No. 3—JUNE

NEWBERNE, P. M., WILSON, R. B. AND WILLIAMS, GAIL.—EFFECTS OF SEVERE AND MARGINAL MATERNAL LIPOTROPE DEFICIENCY ON RESPONSE OF POSTNATAL RATS TO INFECTION 229

POLLIACK, A., LAUFER, A. AND TAL, CHLOE.—STUDIES ON THE RESORPTION OF EXPERIMENTAL AMYLOIDOSIS 236

GARDNER, D. L., QUAGLIATA, F., DROSSMAN, M., KALISH, M. AND SCHIMMER, B.—ATTEMPTED PREVENTION OF ARTERIOLAR LESIONS IN ACCELERATED RAT HYPERTENSION BY IMMUNOSUPPRESSION 242

JUNE—*contd.*

PAGE

WILLIAMS, GAIL AND NEWBERNE, P. M.—EFFECTS OF INFECTION ON SELECTED CLINICAL AND BIOCHEMICAL PARAMETERS IN DOGS 253

STEELE, R. H. AND WILHELM, D. L.—THE INFLAMMATORY REACTION IN CHEMICAL INJURY. III. LEUCOCYTOSIS AND OTHER HISTOLOGICAL CHANGES INDUCED BY SUPERFICIAL INJURY 265

FLETCHER, J. AND GOLDSTEIN, E.—THE EFFECT OF PARENTERAL IRON PREPARATIONS ON EXPERIMENTAL PYELONEPHRITIS 280

VICKERS, T. H.—THE ALIMENTARY TRACT MALFORMATIONS IN THE RABBIT THALIDOMIDE EMBRYOPATHY 286

MOORE, J. E., GRIFFITHS, M. S. AND PEARCE, J. H.—VIRULENCE OF TRACHOMA-INCLUSION CONJUNCTIVITIS AGENT AFTER PASSAGE IN BABOONS . . . 298

LACEY, R. W., ALDER, V. G. AND GILLESPIE, W. A.—THE SURVIVAL OF *Staphylococcus aureus* ON HUMAN SKIN. AN INVESTIGATION USING MIXED CULTURES 305

SULLMAN, SUSAN F., ARMSTRONG, SYLVIA J., ZUCKERMAN, A. J. AND REES, K. R.—FURTHER STUDIES ON THE TOXICITY OF THE AFLATOXINS ON HUMAN CELL CULTURES 314

MCLEAN, A. E. M.—THE EFFECT OF PROTEIN DEFICIENCY AND MICROSOMAL ENZYME INDUCTION BY DDT AND PHENOBARBITONE ON THE ACUTE TOXICITY OF CHLOROFORM AND A PYRROLIZIDINE ALKALOID, RETRORSINE 317

EISEN, V.—PLASMA KININS IN SYNOVIAL EXUDATES 322

EISEN, V. AND SMITH, HEATHER G.—PLASMA KININ FORMATION BY COMPLEXES OF AGGREGATED γ-GLOBULIN AND SERUM PROTEINS 328

DAVID-WEST, TAM. S.—ORGAN DISTRIBUTION OF INFECTIVITY AND COMPLEMENT-FIXING ANTIGEN WITH TWO NIGERIAN ARBOVIRUSES 332

No. 4—AUGUST

GEEVER, E. F., SEIFTER, E. AND LEVENSON, S. M.—PANCREATIC PATHOLOGY, CHEMICALLY DEFINED LIQUID DIETS AND BACTERIAL FLORA IN THE RAT 341

HARDY, T. L.—N-PHENYL ANTHRANILIC ACID: AN AGENT FOR INDUCING AND STUDYING RENAL PAPILLARY NECROSIS IN THE RAT 348

MACKAY, MARGARET AND COMBRIDGE, B. S.—THE SEPARATION OF THE SUBSTRATES FOR PLASMA KALLIKREIN AND PLASMIN FROM A HUMAN KININOGEN . 356

KLIONSKY, B. AND WIGGLESWORTH, J. S.—PRODUCTION OF EXPERIMENTAL MODELS OF FOETAL GROWTH RETARDATION BY INHIBITION OF DNA OR PROTEIN SYNTHESIS 361

POAL-MANRESA, J., LITTLE, K. AND TRUETA, J.—SOME OBSERVATIONS ON THE EFFECTS OF VITAMIN C DEFICIENCY ON BONE 372

AUGUST—*contd.*

PAGE

WALKER, F., CARTER, JULIE, CRAWFORD, G. P. M., LAIRD, HELEN, LESSELS, A. M. AND POLLET, J. E.—HAMSTER CHEEK POUCH MUCOSUBSTANCES AND IMMUNOLOGICAL PRIVILEGE 379

SEAMER, J. AND ZLOTNIK, I.—LOUPING-ILL AND SEMLIKI FOREST VIRUS INFECTIONS IN THE SHORT-TAILED VOLE *Microtus agrestis* (L.) 385

ADAM, S. E. I. AND THORPE, E.—THE INTERACTION OF COLD ENVIRONMENT AND CARBON TETRACHLORIDE HEPATOTOXICITY IN MICE 394

SCOTT, G. B. D. AND KENEFICK, J.—THE INFLUENCE OF HAEMODYNAMICS ON THE STRUCTURE AND ORGANISATION OF EXPERIMENTAL RED THROMBI . 404

KINNS, A. M.—GROWTH IN THE RAT'S BROWN FAT OF A HODGKIN'S-LIKE TRANSPLANTABLE RETICULO-ENDOTHELIAL TUMOUR 411

WARREN, B. A. AND DE BONO, A. H. B.—THE ULTRASTRUCTURE OF INITIAL STAGES OF PLATELET AGGREGATION AND ADHESION TO DAMAGED VESSEL WALLS *in vivo* 415

TS'AO, C. H. AND GLAGOV, S.—PLATELET ADHESION TO SUBENDOTHELIAL COMPONENTS IN EXPERIMENTAL AORTIC INJURY. ROLE OF FINE FIBRILS AND BASEMENT MEMBRANE 423

LEVY, L.—THE EFFECTS OF RESERPINE DEPLETION OF CIRCULATING VASOACTIVE AMINES ON RABBIT SERUM SICKNESS 428

ZLOTNIK, I., SMITH, C. E. G., GRANT, D. P. AND PEACOCK, S.—THE EFFECT OF IMMUNOSUPPRESSION ON VIRAL ENCEPHALITIS, WITH SPECIAL REFERENCE TO CYCLOPHOSPHAMIDE 434

No. 5—OCTOBER

CLARKE, MINCHIN H. G., FREEMAN, T. AND PRYSE-PHILLIPS, W. E. M.—SERUM PROTEIN CHANGES IN STILL'S DISEASE, RHEUMATOID ARTHRITIS AND GOUT 441

SONKODI, S., JOÓ, F. AND MAURER, M.—THE PERMEABILITY STATE OF THE BLOOD-BRAIN BARRIER IN RELATION WITH THE PLASMA RENIN ACTIVITY IN EARLY STAGE OF EXPERIMENTAL RENAL HYPERTENSION 448

LIONS, JENNIFER.—FACTORS CONTROLLING THE GROWTH OF THE YOSHIDA ASCITES TUMOUR IN THE UTERUS OF THE RAT 453

MANGNALL, D. AND BARTLEY, W.—CHANGES IN THE ENZYMIC CAPACITY OF THE RAT KIDNEY AND HEART DUE TO UNILATERAL NEPHRECTOMY AND DEOXYCORTICOSTERONE INDUCED HYPERTENSION 464

PRODI, G., PANE, G. AND ROMEO, G.—METABOLISM OF GLYCOPROTEINS IN TURPENTINE GRANULOMA 477

BASSIR, O. AND BABABUNMI, E. A.—EFFECT OF THE ANTICOAGULANT ACTION OF AFLATOXIN B_1 ON THE ULTRASTRUCTURE OF THE RAT LIVER CELL . . 483

SHANKARAN, P., SHANKARAN, R., RAJ, H. G. AND VENKITASUBRAMANIAN, T. A. —BIOCHEMICAL CHANGES IN LIVER DUE TO AFLATOXIN 487

OCTOBER—*contd.*

PAGE

Currie, T. T., Hayward, Nancy J., Campbell, Pamela C., Westlake, G. and Williams, J.—Epilepsy in Dogs Caused by Large Doses of Penicillin and Concurrent Brain Damage 492

Medhurst, Fiona A. and Glynn, A. A.—*In vivo* Bactericidal Activity of Mouse Complement Against *Esch. coli* 498

Wilkie, D. and Delhanty, Joy.—Effects of Chlorimipramine on Human Cells in Tissue Culture 507

Wyke, Anne W. and Gardner, D. L.—Microchemical Determination of Enzyme Activities in Small Arteries of Rats with Early Adrenal-Regeneration Hypertension 512

Gardner, D. L. and Wyke, Anne W.—Influence of Age and Method of Caging on Small Artery Enzyme Activities: Comparison with Effects of Deoxycortone Acetate and of Cholesterol . . 518

Onabanjo, A. O. and Maegraith, B. G.—Kallikrein as a Pathogenic Agent in *Plasmodium knowlesi* Infection in *Macaca mulatta* 523

Onabanjo, A. O., Bhabani, A. R. and Maegraith, B. G.—The Significance of Kinin-Destroying Enzymes Activity in *Plasmodium knowlesi* Malarial Infection 534

No. 6—DECEMBER

Barabas, A. Z., Nagi, A. H., Lannigan, R. and Womersley, R. A.—The Effect of Cortisone Treatment on Autologous Immune Complex Glomerulonephritis in Rats 541

Pineo, G. F., Regoeczi, E. and Dempster, W. J.—The Nature of Experimental Second-set Kidney Transplant Rejection. 1. The Role of Coagulation in Hyperacute (Second-set) Renal Allotransplant Rejection in Dogs 547

Chin, K. N. and Hudson, G.—Effect of Cyclophosphamide on the Ultrastructure of Peyer's Patches 563

Warren, B. A.—The Ultrastructure of Platelet Pseudopodia and the Adhesion of Homologous Platelets to Tumour Cells . . . 570

Onabanjo, A. O. and Maegraith, B. G.—The Probable Pathogenic Role of Adenosine in Malaria 581

McLean, A. E. M. and Magee, P. N.—Increased Renal Carcinogenesis by Dimethyl Nitrosamine in Protein Deficient Rats 587

Hardy, T. L.—Partial Renal Papillectomy and the Study of Drug Induced Renal Papillary Necrosis in the Rat 591

Inwood, Janet and Tyrrell, D. A. J.—A Cytotoxic Factor in Cholera Toxin 597

DECEMBER—*contd.*

PAGE

FLETCHER, K. AND WYATT, I.—THE COMPOSITION OF LUNG LIPIDS AFTER POISONING WITH PARAQUAT 604

CUSCHIERI, A., ONABANJO, A. O. AND JAMES, P. B.—PHYSIOLOGICAL STUDIES ON BLOOD BRADYKININOGEN UTILIZATION IN MAN 611

DAVIS, J. M. G.—THE LONG TERM FIBROGENIC EFFECTS OF CHRYSOTILE AND CROCIDOLITE ASBESTOS DUST INJECTED INTO THE PLEURAL CAVITY OF EXPERIMENTAL ANIMALS 617

BARKER, D. S., HENDERSON, R. W. AND STOREY, E.—THE *in vivo* LOCALIZATION OF PORPHYRINS 628

CHANDLER, R. L.—ULTRASTRUCTURAL PATHOLOGY OF MASTITIS IN THE MOUSE. A STUDY OF EXPERIMENTAL STAPHYLOCOCCAL AND STREPTOCOCCAL INFECTIONS 639

WEXLER, B. C. AND JUDD, J. T.—ACUTE MYOCARDIAL HISTOPATHOLOGY IN NORMAL AND ARTERIOSCLEROTIC RATS DURING ISOPROTERENOL-INDUCED INFARCTION 646

INDEX TO AUTHORS 653